fifteen years the pendulum has swung from the first extreme to the second. It is refreshing now to see a successful medium reached in the volume under consideration. It would be too much to say that the best result attainable has been produced, but the product is good. Especially satisfactory are chapters XI, XII, XIV, XVI, XVII. These demonstrations are clearly put and given with the proper ring. Another commendable feature is found in chapter X, where oral and mental work is emphasized. This should be encouraged by all the means and devices suggested in this and the following chapter or wherever possible.

One chapter must be criticised—that on quadratic equations. The solution by factoring is very important and never should be relegated to a note at the end of the chapter, as in many books, but neither should it drive all other processes from the field. In practice it should be used whenever the expression is resolvable into rational factors, but otherwise it becomes too clumsy and complex for beginners. Moreover, the solution by the general formula as usually given affords too good an opportunity to neglect in teaching the meaning and use of a formula, and in developing the theory of quadratic equations as that of higher equations is later to be developed.

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Briot and Bouquet's Elements of Analytical Geometry. Werner School Book Company.

THIS work is a translation, by James Harrington Boyd, instructor in mathematics in the University of Chicago, of the fourteenth edition of the popular French treatise of Briot and Bouquet.

Those who have read the works of French authors to any extent must have observed the remarkable manner in which they combine scientific accuracy and generality of treatment with easy and popular diction. They have the happy faculty of bringing out the salient points of an abstruse subject by a clear and even flow of language that dissolves all difficulties and makes the subject easy and fascinating. This has been explained by the fact that such treatises have not been prepared for the sake of writing text-books, but are often the reproduction of lectures whose language has been subject to continual processes of polishing and revision in the effort of the lecturer to convey his thoughts to his students most simply and directly.

The present treatise is no exception to the above rule. The mind of the student is made to float pleasantly and easily along the channel of the author's thought without danger from rocks or shoals. At the same time there are no treatises in the English language upon the same subject, outside of Salmon's, that can compare with it in scientific character, excellence and accuracy. It occupies in this respect about the middle ground between Salmon's works on conic sections and higher plane curves, and the great body of English and American text books.

The book differs from the usual treatises in some important points to which I may call attention. In the first place a knowledge of the calculus is assumed, but only such elementary knowledge as is now given in every proper course in elementary algebra. Also, most text-books, after defining coördinate systems, employ them in finding distances, areas, etc., thus keeping the student at work with which he is familiar in ordinary algebra. He is then introduced very shortly to the fundamental principle of analytical geometry—the representation of an algebraic equation by the locus of all the points that satisfy the equation—and is carried on to the study of the straight line, circle, etc., as such loci. Briot and Bouquet, however, take up this fundamental principle of loci immediately after defining the coördinate systems, explain its importance as the foundation of analytical geometry, and fix its ideas in the mind by a long chapter of illustrative examples in which the equation of a curve is obtained from its geometrical definition in the case of a large number of curves of different degrees. Another chapter concerning homogeneity which is to be omitted on first reading, and a chapter on transformation of coördinates and classification of curves, complete the first book of the treatise. The student has now a bird's-eye view of the subject. He knows what analytical geometry is, and what he is to do with it, and is now ready to enter with zest into the more particular discussion of the straight line and circle. The chapters on these loci, and a more general chapter on geometrical loci, which is to be omitted on first reading, complete the second book. In the third book the student is introduced to the general equation of second degree, and is shown how to construct its locus by algebraic solution for one of the variables. He is thus led to the complete classification of these loci, and to the various forms which the equation of second degree may take, together with the general properties of tangents, centers, diameters, axes, etc.

The properties of the ellipse, hyperbola and parabola, as deduced from their special equations, follow in natural order, together with the properties of foci and directrices and the identification of curves of second order with conic sections. The remainder of the book is marked for omission on first reading, and includes work of a more general and modern character, such as pole and polar, tangential, homogeneous, and trilinear coördinates, projective properties, etc.

It seems to me that this translation is likely to prove a useful one by furnishing the higher colleges with a course that is not so severe as Salmon's, and yet better than any that is now given in which Salmon's books are not used.

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A History of American Literature. By FRED LEWIS PATTEE, Pennsylvania State College. Boston: Silver, Burdette & Co.

THE plan of Professor Pattee's volume is wholly to be commended. He has prepared a text-book that will scarcely be welcome to indolent or unaspiring instructors, and in so far is a public benefactor. The class in literature is yet, in many high schools, but a resting time between sterner tasks, while the teacher, sitting back and reading the pages of the lesson, perhaps for the first time, hears his class recite. Anything that helps the passing of this sort of pedagoguery is to be praised. The book is hardly more than an outline, and of the sort that cannot be put into class use without supplemental reading. Even the biographic paragraphs cannot, in general, be treated as available matter for "recitation" until reinforced by references. The first thing given under each new topic is a list of authorities, after which, in succinct subordination, is the author's summary. The matter is so arranged that schools without libraries can make shift to do the work, as the author intended, by proper methods.

The full title of the work, *A History of American Literature, with a View to the Fundamental Principles Underlying its Development*, gives further intimation as to the author's purposes. Here is a rather hazardous obligation to assume. Not that professors and teachers of literature are so well advised as to what the principles underlying even general literary development really are, for the contrary is true; but they will be all the more exacting critics. It would be hardly true to